

Homework 3

CMSY-199, Spring 2013

The source code for this assignment must be submitted to the Canvas course website prior to the start of class on Monday, March 11.

1. Write a Java application called **Poker** which uses the **Card** (Fig. 7.9) and **DeckOfCards** (Fig. 7.10) classes to create a deck of cards, shuffle the deck, and deal a five-card poker hand. Add the methods **getFace** and **getSuit** to the **Card** class.
2. Write a class called **Hand** which encapsulates the attributes and operations of a five-card poker hand including methods to **show** the contents of the hand and determine whether the **result** of the hand is a
 - (a) royal flush
 - (b) straight flush
 - (c) four of a kind
 - (d) full house
 - (e) flush
 - (f) straight
 - (g) three of a kind
 - (h) two pair
 - (i) pair
 - (j) nothing
3. Modify the **Poker** application to deal 2,598,960 consecutive poker hands, keep a **count** of each of the ten possible results, and print a summary table of the results. The expected frequency of each result is shown in the table below.

Result	Expected Frequency
Royal Flush	4
Straight Flush	36
Four of a Kind	624
Full House	3,744
Flush	5,108
Straight	10,200
Three of a Kind	54,912
Two Pair	123,552
Pair	1,098,240
Nothing	1,302,540